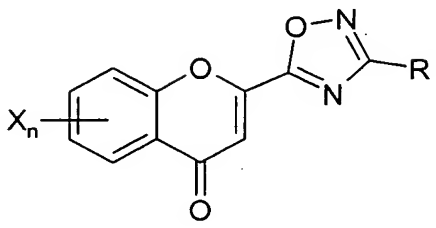
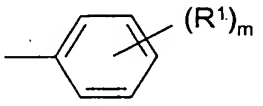
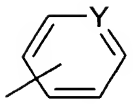
Patent Claims

1. A compound of formula I



I

in which

R is A,  or  ,

X is H, -OH, -OA, phenoxy, Ar, -O-CO-A, SO_3H, SO_3A, $-OSO_3H$, $-OSO_3A$, $-OSO_2A$, SO_2A, Hal, COOH, COOA, $CONH_2$, $NHSO_2A$, COA, CHO or SO_2NH_2, or

two radicals X together are methylenedioxy or ethylenedioxy,

R^1 is H, A, -OH, -OA or Hal, or

two radicals R^1 together are methylenedioxy or ethylenedioxy,

Y is CH or N,

Ar is phenyl which is unsubstituted or monosubstituted, disubstituted or trisubstituted by A,

A is an unbranched or branched alkyl having 1-10 carbon atoms, in which 1-7 H atoms may be replaced by F,

Hal is F, Cl, Br or I,

n is 1, 2, 3 or 4, and

m is 1, 2, 3, 4 or 5, or

a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof.

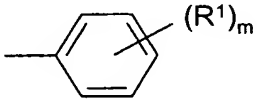
2. A compound according to Claim 1,

in which

X is H, -OH or -OA, or

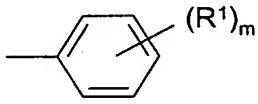
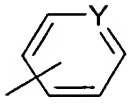
two radicals X together are methylenedioxy or ethylenedioxy, or a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof.

3. A compound according to Claim 1, in which

R is A or  , and

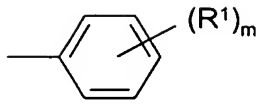
X is H, -OH or -OA, or
two radicals X together are methylenedioxy or ethylenedioxy, or a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof.

4. A compound according to Claim 1, in which

R is A,  or  ,

X is H, -OH or -OA,
Y is N,
R^1 is A,
A is an unbranched or branched alkyl having 1-6 carbon atoms,
n is 1, 2, 3 or 4, and
m is 1, 2, 3 or 4, or
a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof.

5. A compound according to Claim 1, in which

R is  ,

X is H, -OH or -OA,

R^1 is A,

A is an unbranched or branched alkyl having 1-6 carbon atoms,

n is 1, 2, 3 or 4, and

m is 1, 2, 3 or 4, or

a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof.

6. A compound according to Claim 1 selected from 6-hydroxy-2-[3-(4-tert-butylphenyl)-1,2,4-oxadiazol-5-yl]chromone, 7-hydroxy-2-[3-(4-tert-butylphenyl)-1,2,4-oxadiazol-5-yl]chromone, or 6-hydroxy-2-[3-(pyridin-2-yl)-1,2,4-oxadiazol-5-yl]chromone,

a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof.

7. A pharmaceutical composition comprising a compound according to Claim 1 or a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof and one or more pharmaceutically acceptable excipients and/or adjuvants.

8. A method of inhibiting tyrosine kinase comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

9. A method of treating a solid tumor in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

10. A method according to Claim 9, wherein the solid tumor is a cerebral tumor, a tumor of the genito-urinary tract, a tumor of the lymphatic system, a stomach tumor, a laryngeal tumor or a lung tumor.

11. A method according to Claim 9, wherein the solid tumor is monocytic leukaemia, lung adenocarcinoma, small cell lung carcinoma, pancreatic cancer, glioblastoma or breast carcinoma.

12. A method of treating a disease by inhibiting angiogenesis in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

13. A method according to Claim 12, wherein the disease is an ocular disease.

14. A method of treating retinal vascularisation in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

15. A method of treating diabetic retinopathy in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

16. A method of treating an age-related macular degeneration in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

17. A method of treating an inflammatory disease in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

18. A method according to claim 17, wherein the inflammatory disease is rheumatoid arthritis, psoriasis, contact dermatitis or a delayed hypersensitivity reaction.

19. A method of treating a tyrosine kinase-dependent disease or a tyrosine kinase-dependent condition in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

20. A method of treating a bone pathology comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

21. A method according to claim 20, wherein the bone pathology is osteosarcoma, osteoarthritis or rickets.

22. A pharmaceutical composition according to claim 7, further comprising an additional pharmaceutically active compound.

23. A kit comprising separate packs of
(a) a pharmaceutical composition according to Claim 7 or a compound of formula I or a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof,
and
(b) an additional pharmaceutically active compound or composition.

24. A method according to claim 9, further comprising administering an oestrogen receptor modulator, an androgen receptor modulator, a retinoid receptor modulator, a cytotoxic agent, an antiproliferative agent, a prenyl-protein transferase inhibitor, an HMG-CoA reductase inhibitor, an HIV protease inhibitor, a reverse transcriptase inhibitor or an angiogenesis inhibitor.

25. A method according to claim 24, further comprising performing radiotherapy on said mammal.

26. A method of treating a disease related to an oxidative stress condition in a mammal comprising administering to a patient in need thereof a pharmaceutical composition according to claim 7.

27. A method according to claim 25, wherein the disease is memory loss or a neurodegenerative disorder.

28. A food supplement comprising a compound of claim 1.

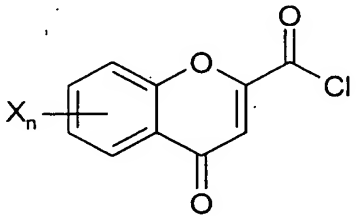
29. A cosmetic composition comprising a compound of claim 1.

30. A method of protecting the proteins of the skin from stress comprising applying a cosmetic composition of claim 29 to the skin.

31. A topically applicable cosmetic composition comprising a compound of claim 1.

32. A cosmetic composition according to claim 29, containing 0.0001 to 50% by weight of a compound of claim 1.

33. A compound of formula VI

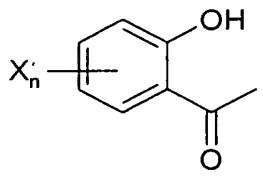


VI

in which

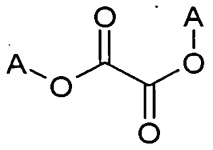
X is -H, -OH, -OA, phenoxy, Ar, -O-CO-A, SO_3H, SO_3A, $-OSO_3H$, $-OSO_3A$, $-OSO_2A$, SO_2A, Hal, COOH, COOA, $CONH_2$, $NHSO_2A$, COA, CHO or SO_2NH_2, or
two radicals X together are methylenedioxy or ethylenedioxy, and
n is 1, 2, 3 or 4, or
a salt thereof.

34. A process for preparing a compound according to Claim 1 or a salt or a solvate or a mixture of stereoisomers or isolated stereoisomer thereof, comprising
a) reacting a compound of formula II



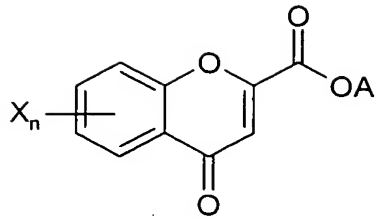
II

in which
X and n are as defined in Claim 1,
with a compound of formula III



III

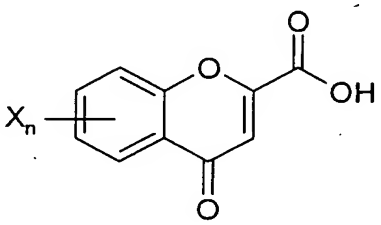
in which A is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,
to give a compound of formula IV



IV

in which X and n are as defined in Claim 1,
and A is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,

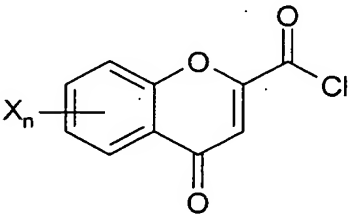
b) then hydrolysing the compound of formula IV to a compound of formula V



V

in which X and n are as defined in Claim 1,

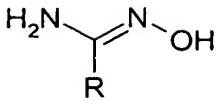
c) then converting the compound of formula V to a compound of formula VI



VI

in which X and n are as defined in Claim 1,

and then either
reacting the compound of formula VI with a compound of formula VII

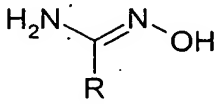


VII

in which R is as defined in Claim 1,

to give a compound of formula I,

or reacting the compound of formula V with a compound of formula VII



VII

in which R is as defined in Claim 1,

in a two-step, one-pot reaction to give a compound of formula I,

and/or

d) a compound of formula I is converted into a salt or into a solvate and/or a stereoisomer of a compound of formula I is isolated.